

CLAIMS

1. A catalyst module having a waste liquid inlet passage for inflow of a waste liquid, whose partition wall is formed of a fibrous activated carbon, wherein:

the fibrous activated carbon is impregnated with or contains a catalyst; and

the waste liquid in the waste liquid inlet passage passes through the partition wall and is discharged out of the waste liquid inlet passage.

2. A catalyst module according to claim 1, wherein a plurality of the waste liquid inlet passages are arranged in a form of a bundle.

3. A catalyst module according to claim 2, wherein each of the plurality of waste liquid inlet passages are formed between a first partition wall formed to have a wavy section and a second partition wall arranged to follow one side of the first partition wall.

4. A catalyst module according to claim 3, wherein the first partition wall and the second partition wall are arranged concentrically or spirally.

5. A catalyst module according to any one of claims 1 to 4, wherein the fibrous activated carbon is impregnated with or contains silver as a catalyst.

6. A catalyst module according to any one of claims 2 to 4, comprising a surface layer surrounding an outer periphery of the plurality of waste liquid inlet passages arranged in the form of a bundle, wherein the surface layer is formed of a material inhibiting passage of a liquid.

7. A catalyst module according to claim 6, wherein the surface layer is formed of a material inhibiting the passage of a liquid and allowing passage of a gas.

8. A catalyst module according to claim 1, wherein the partition wall is formed of a fibrous activated carbon layer prepared by laminating a plurality of the fibrous activated carbon in a form of sheets.

9. A catalyst module according to claim 8, wherein the partition wall comprises a projecting part projecting into the waste liquid inlet passage.

10. A catalyst module according to claim 8, wherein the two

or more of the sheet form of the fibrous activated carbon are further formed into a bag comprising an open lower end.

11. A catalyst module according to claim 8, wherein a mesh member is arranged between the sheet forms of the fibrous activated carbon.

12. A catalyst module according to claim 8, wherein:
an inlet port of the waste liquid is provided at a lower end of the waste liquid inlet passage; and
an end of the waste liquid inlet passage opposite to the inlet port is closed to inhibit passage of a liquid.

13. A catalyst module according to any one of claims 8 to 12, wherein the fibrous activated carbon is impregnated with or contains silver as a catalyst.

14. A waste liquid treatment apparatus comprising a waste liquid treatment tank capable of holding at least one of the catalyst modules according to any one of claims 1 to 4, wherein:

the waste liquid storage tank temporarily stores a treated liquid discharged from the catalyst module; and

the stored treated liquid is discharged out of the waste liquid treatment tank at a predetermined liquid level.

15. A waste liquid treatment apparatus comprising a waste liquid treatment tank capable of holding at least one of the catalyst modules according to claim 5, wherein:

the waste liquid storage tank temporarily stores a treated liquid discharged from the catalyst module; and

the stored treated liquid is discharged out of the waste liquid treatment tank at a predetermined liquid level.

16. A waste liquid treatment apparatus comprising and a waste liquid treatment tank capable of holding at least one of the catalyst modules according to any one of claims 8 to 12, wherein:

the waste liquid storage tank temporarily stores a treated liquid discharged from the catalyst module; and

the stored treated liquid is discharged out of the waste liquid treatment tank at a predetermined liquid level.

17. A waste liquid treatment apparatus comprising a waste liquid treatment tank capable of holding at least one of the catalyst modules according to claim 13, wherein:

the waste liquid storage tank temporarily stores a treated liquid discharged from the catalyst module; and

the stored treated liquid is discharged out of the waste liquid treatment tank at a predetermined liquid level.

18. A waste liquid treatment apparatus according to claim 15, wherein a plurality of the catalyst modules are held in the waste liquid treatment tank in parallel with an inflow direction of the waste liquid.